

REMARKS

Claims 1 to 20 are under consideration. Claims 1, 2, 3, 4 and 5 have been amended. New claims 11 to 20 have been added. No new matter is added. Reconsideration of claims 1-10 and new claims 11-20 is respectfully requested.

Rejection Under 35 U.S.C. 102 (b)

The Action rejected claim 2 as being anticipated by U.S. Patent No. 3,879,890 to Chen et al., stating that *Chen teaches a novel technology for cultivation of seaweeds on land the technology comprising a plurality of land based seawater ponds (Chen Col. 2 line 54-64), designed to contain seawater enriched with nutrients and the ponds maintained under optimal conditions of temperature, light and air to allow optimal growth of seaweed throughout the year (Chen Col. 3 line 60-65).*

In response, applicant has amended claim 2 to more accurately represent the present invention. The amended claim includes several elements, for example, (a) to (g) that not present in Chen. Based on these facts, it is clear that there is no basis for the above rejection, because in order for a reference to qualify as anticipatory, the reference must have each and every element of the invention being claimed. "*A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference*" Verdegaal Bros. v. Union Oil Co of California, 81 F2d 628, 631, 2 USPQ 1051, 1053 (Fed Cir 1987). Therefore, amended claim 2 should be allowed.

Rejections under 35 U.S.C. 103

The Action rejects Claims 1 and 3-6 under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 6,056,476 to Streichenberger in view of U.S. Patent No. 3,195,271 to Golueke et al and NoriTech-Seaweed Biotechnologies Ltd., stating that *regarding Claims 1, 5 and 6, Streichenberger teaches a system for land based cultivation of seaweeds, the system has a laboratory facilities suitable to produce spores and sporelings in culture (Streichenberger abstract and Col. 1 line 25); a plurality of sleeves to allow the maturation of the sporelings (Streichenberger Fig.7).*

The Action further states that *Streichenberger teaches securing the sleeves under a body of seawater, but is silent on a plurality of small inoculation tanks containing seawater enriched with nutrients under optimal conditions to allow the mature sporelings to grow into seaweed pieces; and a plurality of large cultivation tanks to transfer the seaweed pieces into to grow to full size.*

In response, applicant disagrees. The description of Fig. 7 of Streichenberger is reproduced below:

“ FIG. 7 shows a giant kelp plant *Macrocystis pyrifera* (50) of which the holdfast (51) has grown over unseen floating substrate (13) or standing substrate (30) moored on a rocky or sandy bottom (39). The upper part of Kelp (50) floats at the surface of the sea (52).” This clearly describes distinct structures (“holdfast”, “standing substrate”, “rocky or sandy bottom”, etc) from the sleeves of the present invention.

As admitted in the Action, Streichenberger describes securing floating substrates under a body of seawater, and not in land based tanks. Secondly, the Action admits that Streichenberger does not have inoculation tanks. In fact, Streichenberger does not either have the cultivation tank or the harvesting tanks.

However, The Action relies on Golueke et al because *it teaches that land based*

seaweed cultivation is done in a culture inoculation tank (Golueke Fig. 1 #6), and concludes that it would have been obvious to one of ordinary skill in the art to modify the teachings of Streichenberger with the teachings of Golueke at the time of the invention to provide a more controlled environment for the seaweed cultivation.

In response, applicant disagrees. Golueke Fig. 1 #6 is described as a culture tank into which preconditioned seawater and filtered raw sewage are introduced along with an inoculum of red algae, and the tank is left open to the atmosphere. Col 2, line 52-60. The very idea of using raw sewage as a nutrient for the red algae teaches away from the present invention. Furthermore, Golueke describes only one culture tank with a specific inlet and outlet- features not present in the present invention.

And the Action admits that Streichenberger is silent on the inoculation and the cultivation taking place in separate tanks. However, the Action goes on to cite *NoriTech as teaching that it is well-known to cultivate seaweed in a network of artificial ponds (Noritech page 1 second paragraph), thereby making it obvious to one of ordinary skill in the art to modify the teachings at the time of the invention since the modification is merely separating the steps into separate tanks to have better environmental control of the different phases in the seaweed, to reduce the possibility of pollutants, and to have continuous development of continuous production in an efficient manner.*

In response, applicant disagrees. Noritech in second paragraph only mentions “a network of artificial ponds”. Noritech does not describe the types of artificial ponds nor suggest any. Moreover, Noritech –Seaweed Biotechnologies Ltd is the assignee of the present invention.

The Action states:

Regarding Claim 3, Streichenberger as modified teaches the seaweed species grown in land based seawater ponds include Undaria (Streichenberger Col. 1 line 24).

Regarding Claim 4, Streichenberger as modified teaches the nutrient added to the seawater are designed to produce seaweeds that are used as food and pharmaceutical products (Streichenberger Col. 1 line 14-15)

In response, applicant disagrees that the above descriptions form proper basis for rejection under 35 U.S.S. 103(a). In any event, applicant has deleted *Laminaria Undaria* in claim 3.

Applicant refers to MPEP 2141.02 and specifically points out that in determining the differences between the prior art and the claims, the question under 35 USC 103, is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. Stratoflex, Inc. v. Aeroquip Corp. 713 F. 2d 1530 218 USPQ 871 (Fed. Cir. 1983).

Moreover, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure. In re Vaeck 947 F. 2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (MPEP §2143). The Federal Circuit, in reference to references cited in an obviousness rejection, has held that: "The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention." Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 1986 MPEP 2141.

Thus as a matter of fact and law, there is no basis to sustain the above rejection of claims 1 and 3-6 and this rejection should be withdrawn.

Claim 7-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,056,476 to Streichenberger in view of U.S. Patent No. 3,195,271 to Golueke et al and NoriTech-Seaweed Biotechnologies Ltd as applied to claim 1 above, and further in view of U.S. Patent No. 5,350,588 to Campbell.

The Action states:

Regarding Claim 7, Streichenberger as modified is silent on drying and grinding the harvested seaweed. However, Campbell teaches drying and grinding harvest seaweed for food consumption (Campbell Fig.1 and Col. 1 line 25). It would have been obvious to one of ordinary skill in the art to modify the teachings of Streichenberger at the time of the invention as a means of processing the cultivated seaweed into a usable product for sale, storage, or consumption.

Regarding claim 8, Streichenberger as modified teaches the large cultivation tanks contain nutrient to ensure high yield of seaweed products having useful properties (Golueke Col. 2 line 33-35)

Regarding claim 9, Streichenberger as modified teaches product useful as pharmaceutical product (Streichenberger Col. 1 line 14-15)

Regarding claim 10, Streichenberger as modified teaches the product is useful as food component (Streichenberger Col.1 line 14-15).

In response, Applicant disagrees with the above rejections because they are untenable as a matter of patent law. As discussed above, when applying 35 USC 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination, (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention, and (D) Reasonable expectation of success is the standard with which obviousness is

determined. Hodosh v. Block Drug Co., Inc., 786 F.2d 1136, 1143 n.5, 1986 MPEP 2141.

None of the factors A to D above, are present here. Therefore, as a matter of fact and law, the above rejection of claims 7-10 should be withdrawn.

Applicant respectfully submits another reason to overcome all of the above obviousness rejections. Under Graham v. John Deere, 383 U.S. 1, 148, USPQ 459 (1966): "secondary considerations as commercial success, long felt but unsolved needs failure of others, etc., might be utilized to give light to the circumstances under which the invention to be patented was developed." Applicant has achieved commercial success and is on the verge of developing his invention on a large industrial scale and provide a ready supply of high quality seaweeds for human use. Applicant requests that these secondary reasons be considered to overcome all of the rejections under 103(a). Accordingly claims 1 to 15 should be allowed.

The following prior art was made of record but not relied upon- Japanese Patent JP 11113434A; Japanese Patent JP 2002238384; Japanese Patent JP 06217657; US Patent No. 6,579,714; U.S. Patent No. 6,698,134; U.S. Patent No 4,235,043; U.S. Patent No. 6,199,317; Japanese Patent JP 04210535. Therefore these references are not discussed in detail.

Applicant has made diligent effort to amend the claims and respond to various rejections made in the Office Action. If for any reasons however, the Examiner should deem that this application is not in condition for allowance, the

Examiner is respectfully requested to telephone the undersigned attorney listed below to resolve any outstanding issues prior to issuing a further Office Action.

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Respectfully submitted,

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Signature

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Date of Signature